

AMENDMENTS TO THE CLAIMS

Claims 1 – 29. (Canceled)

30. (Currently amended) The memory cell of claim [[29]] 47, wherein said first magnetic layer is a pinned layer.

31. (Previously presented) The memory cell of claim 30, wherein said first magnetic layer is arranged and configured to provide a ferromagnetic pinned layer.

32. (Currently amended) The memory cell of claim [[29]] 47, wherein said second magnetic layer includes a sense layer.

33. (Previously presented) The memory cell of claim 32, wherein said sense layer is arranged and configured to provide a ferromagnetic sense layer.

34. (Currently amended) The memory cell of claim [[29]] 47, wherein said nonmagnetic tunnel barrier layer comprises aluminum oxide.

35. (Previously presented) The memory cell of claim 34, wherein said aluminum oxide has a thickness of about 5 to 25 Angstroms.

36. (Currently amended) The memory cell of claim [[29]] 47, wherein said nonmagnetic tunnel barrier layer comprises a material selected from the group consisting of copper, titanium oxide, magnesium oxide, silicon oxide and aluminum nitride.

37. (Currently amended) The memory cell of claim [[29]] 47, wherein said conductive layer is selected from the group consisting of copper, aluminum, tungsten and gold.

38. (Currently amended) The memory cell of claim [[29]] 47, wherein said first magnetic layer comprises a first tantalum layer, a first nickel-iron layer, a manganese-iron layer, and a second nickel-iron layer.

39. (Previously presented) The memory cell of claim 38, wherein said plurality of films comprises a third nickel-iron layer, a second tantalum layer, and a tungsten nitrogen chemical mechanical polishing stop.

40. (Currently amended) The memory cell of claim [[29]] 47, wherein said memory cell is coupled to at least one word line.

41. (Currently amended) A memory circuit, said memory circuit comprising:
a plurality of memory cells, each memory cell comprising:
~~a first magnetic layer over a conductive layer, said first magnetic layer comprising a first plurality of films;~~
~~a nonmagnetic tunnel barrier layer over said first magnetic layer; and~~
~~a second magnetic layer over said nonmagnetic tunnel barrier layer, said second magnetic layer comprising a second plurality of films, including a free ferromagnetic layer, a tantalum layer, and a chemical mechanical polishing stop layer~~

a first magnetic layer adjacent a conductive layer, said first magnetic layer comprising a first plurality of films;

a nonmagnetic tunnel barrier layer separated from said conductive layer by said first magnetic layer; and

a second magnetic layer separated from said first magnetic layer by
said nonmagnetic tunnel barrier layer, said second magnetic layer comprising:

a second plurality of films including a ferromagnetic material
adjacent said nonmagnetic tunnel barrier layer, a tantalum film adjacent
said ferromagnetic material, and;

a chemical mechanical polishing stop arranged to protect said
second magnetic layer, wherein said chemical mechanical polishing stop
is an oxide.

42. (Currently amended) A processor system comprising at least one memory circuit, wherein said at least one memory circuit comprises at least one memory cell according to claim [[29]] 47.

Claims 43-46. (Canceled)

47. (Currently amended) The memory cell of claim 45, A magnetic random access memory cell, said memory cell comprising:

a first magnetic layer adjacent a conductive layer, said first magnetic layer comprising a first plurality of films;

a nonmagnetic tunnel barrier layer separated from said conductive layer by
said first magnetic layer; and

a second magnetic layer separated from said first magnetic layer by said
nonmagnetic tunnel barrier layer, said second magnetic layer comprising:

a second plurality of films including a ferromagnetic material adjacent said nonmagnetic tunnel barrier layer, a tantalum film adjacent said ferromagnetic material, and;

a chemical mechanical polishing stop arranged to protect said second magnetic layer, wherein said chemical mechanical polishing stop is an oxide.

48. (Currently amended) ~~The memory cell of claim 45, A magnetic random access memory cell, said memory cell comprising:~~

a first magnetic layer adjacent a conductive layer, said first magnetic layer comprising a first plurality of films;

a nonmagnetic tunnel barrier layer separated from said conductive layer by said first magnetic layer; and

a second magnetic layer separated from said first magnetic layer by said nonmagnetic tunnel barrier layer, said second magnetic layer comprising:

a second plurality of films including a ferromagnetic material adjacent said nonmagnetic tunnel barrier layer, a tantalum film adjacent said ferromagnetic material; and

a chemical mechanical polishing stop arranged to protect said second magnetic layer, wherein said chemical mechanical polishing stop is a nitride.